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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,113	07/15/2003	Gimtong Teowee	BRI/017	8632

7590 12/02/2008
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EXAMINER

CHANKONG, DOHM

ART UNIT	PAPER NUMBER
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2452

MAIL DATE	DELIVERY MODE
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12/02/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/620,113	Applicant(s) TEOWEE ET AL.	
	Examiner DOHM CHANKONG	Art Unit 2452	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 5-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 5-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/20/2008</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to Applicant's amendment and arguments filed on 9/9/2008.

Claims 1, 3, 7, 11, 13, 15, and 17-19 are amended. Claims 23-31 are added. By way of Applicant's amendment, claims 1, 3, and 5-31 are presented for further examination.

2. This action is a final rejection.

Information Disclosure Statement

3. The information disclosure statement filed on 10/20/2008 has been considered by the examiner.

Response to Arguments

4. Applicant's arguments with respect to claims 1, 3, and 5-31 have been considered but are moot in view of the new ground(s) of rejection necessitated by Applicant's amendment.

Examiner notes that if the independent claims (claims 1, 13, and 17) were amended to include the limitations of dependent claims 23-25 respectively and 26-28 respectively, the independent claims would likely be in condition for allowance pending a further search to consider those claimed limitations together within the same claim. Applicant should note that this indication of possible allowable subject matter hinges on the incorporation of limitations from both claims 23-25 and 26-28.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1, 3, and 5-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, independent claim 1 has been amended to recite, *inter alia*, "ascertaining transmission frequency by sampling the bit width of at least one of said synchronization bits." Independent claims 13 and 17 contain similar language. Applicants cite the third and fourth sentences of paragraph 41 and Figure 9 as support for the subject matter. While the figure may illustrate "bit width," there is no corresponding description for the feature of ascertaining the transmission frequency by sampling the bit width as claimed. Instead, the specification discusses ascertaining the rate of transmission that can vary for example between 300 and 9600 baud. The examiner also could not find written description that the transmission frequency (signaling rate) is continuously variable. Dependent claims are rejected based on their dependency on their deficient parent claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 6-8, 10, and 12-14 are rejected under 35 U.S.C. §103(a) as being unpatentable over Flynn, U.S. Patent No. 6,198,785.

7. As to claim 1, Flynn discloses a method of transferring data comprising the following steps:

transmitting, at a transmission frequency that is continuously variable [*column 3 «lines 22-31»*: a variable baud rate generate implies that the frequency may be continuously variable] and is not selected *a priori* [*column 1 «lines 20-22 and 53-58»*: discussing the problem to be solved – that the user has to know the baud rate - and the feature of automatic detection of an incoming baud rate], data that includes synchronization bits and bits conveying other information [*column 4 «line 57» to column 5 «line 6»*: where the start bit of the data enables the device to automatically detect and adjust incoming baud rate from a terminal]; and,

receiving said transmitted data by the following steps:

ascertaining the transmission frequency by sampling the bit width of at least some of said synchronization bits [*column 6 «lines 46-58»*]; and,

receiving, at the ascertained transmission frequency, said bits representing other information [*column 3 «lines 3-6»*: rest of the characters are then received at the actual baud rate].

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8. As to claim 6, Flynn discloses said step of transmitting is performed by a master device [*column 2 «lines 57-58»* where : Flynn's data communication terminal is a master device] and said step of receiving is performed by a slave device [abstract : where Flynn's communication receivers are slave devices].

9. As to claim 7, Flynn discloses the step of transmitting other data back from said slave device to said master device at a transmission frequency determined in step b) (of claim 1) [*column 3 «lines 22-24»*: BRG responsible for setting the receive and transmit baud rates and are they are set to the same rate during Flynn's detection process].

10. As to claim 8, Flynn discloses commands are transmitted in step (a) and said other data are at least partly responsive to said commands [*column 3 «lines 18-21» | column 7 «lines 18-37»*].

11. As to claim 10, Flynn discloses said sampling is effected by the user of a counter/timer monitoring transitions in voltage level [*Fig. 5*].

12. As to claims 13 and 14, they are merely a device that implements the steps of the method of claims 1 and 6. Therefore, claims 13 and 14 are rejected for at least the same reasons set forth for claims 1 and 6.

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13. As to claims 29 and 30, Flynn does disclose utilizing an asynchronous serial communications interface [*column 3 «lines 65-66»*]. The use of an asynchronous serial interface clearly implies that the transmitting and receiving steps are performed asynchronously.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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14. Claims 3, 8, 10, 15, 17-19, and 31 are rejected under 35 U.S.C §103(a) as being unpatentable over Flynn, in further view of Laturell et al, U.S Patent No. 6.404.780 [“Laturell”].

15. As to claim 3, Flynn discloses the steps of:

establishing a system having encountered transmission conditions limiting the rate of transmission on said system, which conditions are not precisely known in advance of establishing said system but are encountered after establishment of the system, wherein said steps of transmitting and receiving are performed over said system [*column 2 «line 61» to column 3 «line 6»*]; and

if said transmission frequency exceeds said possible transmission frequency under said encountered transmission conditions, altering said transmission frequency so as to equal a rate

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that is within said possible transmission frequency under said encountered transmission conditions [*column 3 «lines 1-3»*].

Flynn does not expressly disclose a bus. Like Flynn, Laturell discloses a method for establishing a system for transferring data [abstract]. Laturell discloses synchronizing slave devices over a serial data bus using control words [abstract | column 3 «lines 43-46»]. It would have been obvious to one of ordinary skill in the art to incorporate Laturell's teaching of a serial bus to synchronize devices into Flynn's system. One would have been motivated to modify Flynn because adding a serial bus between Flynn system would have been an obvious improvement because Flynn already discloses serial communications in his system [*column 2 «lines 11-13»*: any serial data communication device].

16. As to claims 15 and 19, they are merely directed to a device and a system, respectively, that implement the steps of the method of claim 7. Therefore, claims 15 and 19 are rejected for at least the same reasons set forth for claim 7.

17. As to claim 17, it is merely a system that implements the steps of the method of claims 1, 3, and 6. Therefore, claim 17 are rejected for at least the same reasons set forth for claims 1, 3, and 6.

18. As to claim 18, it is merely a system that implements the steps of the method of claim 3. Therefore, claim 18 are rejected for at least the same reasons set forth for claim 3.

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19. As to claim 31, Flynn does disclose utilizing an asynchronous serial communications interface [*column 3 «lines 65-66»*]. The use of an asynchronous serial interface clearly implies that the transmitting and receiving steps are performed asynchronously.

20. Claims 5, 21, and 22 are rejected under 35 U.S.C §103(a) as being unpatentable over Flynn and Laturell, in further view of Rubbmark et al, U.S Patent No. 6.012.105 [“Rubbmark”].

21. As to claims 5, 21, and 22, Flynn as modified by Laturell does not disclose a 2-line serial bus for communicating between the devices. Rubbmark discloses a 2-line serial bus that enables for synchronization between a master and slave device [*column 5 «lines 33-36 and 43-47»*]. It would have been obvious to one of ordinary skill in the art to incorporate Rubbmark’s teaching of a 2-line serial bus interface into Flynn’s data transfer system. The 2-line serial bus interface is well known in the art and provides useful benefits for transferring operating parameters between advanced electronic devices [see Rubbmark, *column 2 «lines 16-20»*]. One would therefore have been motivated to incorporate the 2-line serial bus into Flynn’s system in order to be able to transfer complex operating parameters between master and slave devices and especially given Flynn’s use of serial communication devices.

22. Claims 9, 16 and 20 are rejected under 35 U.S.C §103(a) as being unpatentable over Flynn and Laturell, in further view of Hallin et al, U.S Patent Publication No. 2003|0136289 [“Hallin”].

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23. As to claim 9, Flynn as modified by Laturell does not expressly disclose a detonator or a blasting machine. Hallin discloses an electronic detonator system for synchronizing communications between a detonator (slave) and a blasting machine (master) [abstract | 0011-0015]. It would have been obvious to one of ordinary skill in the art to modify Flynn's system to include Hallin's slave detonators and master blasting machines. One would have been motivated to perform such a modification to enhance the functionality of Flynn's synchronization system by increasing the number of devices with which Kuznicki would be compatible. There is a reasonable expectation of success because Hallin discloses utilizing digital data packets over a bus between the detonators and the blasting machine [0014, 0021] which is analogous to Flynn and Laturell's system.

24. As to claims 16 and 20, they are merely directed to a device and a system, respectively, that implement the steps of the method of claim 7. Therefore, claims 15 and 19 are rejected for at least the same reasons set forth for claim 7.

25. Claim 11 is rejected under 35 U.S.C. §103(a) as being unpatentable over Flynn, in view of Hunsinger et al, U.S. Patent No. 6,563,880 ["Hunsinger"].

26. As to claim 11, Flynn does not disclose sampled synchronization bit widths are averaged together. However, such a feature was well known in the art at the time of Applicant's invention as evidenced by Hunsinger. Hunsinger discloses averaging sampled synchronization bit widths in order to eliminate random variations in the samples [column 21 «lines 5-15»]. For

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the benefit of producing more accurate sampling of the baud rate, one would have been motivated to modify Flynn's system to include an averager as taught by Hunsinger.

27. Claims 12 and 23-25 are rejected under 35 U.S.C. §103(a) as being unpatentable over Flynn and Laturell (for claim 25), in view of Kuznicki, U.S. Patent No. 5,282,205.

28. As to claim 12, while Flynn does disclose said synchronization bits precede bits conveying other information [*column 2 «lines 61-65»: synchronization bits are the start bits of the data*] but does not disclose wherein within at least one word containing synchronization bits. However, such a feature was well known in the art at the time of Applicant's invention. Kuznicki discloses it was well known in the art the feature of at least one word containing synchronization bits [*Fig. 4*]. It would have been obvious to one of ordinary skill in the art to have reasonably inferred based on Kuznicki's teaching that Flynn's start bits were part of a word (or byte). Words or bytes were well known in the art as being a unit of information comprising bits.

29. As to claims 23-25, Flynn does not disclose but Kuznicki does disclose that said data comprises a packet that includes two or more words containing synchronization bits, and wherein step b) is conducted on at least two words containing synchronization bits [*column 6 «lines 20-37»*], and wherein at least two words containing synchronization bits are separated by one or more words containing said bits conveying other information [*column 6 «lines 23-26»*]. It would

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have been obvious to one of ordinary skill in the art to have modified Flynn to include these features as taught by Kuznicki who discloses one advantage of such an implementation: to “provide a flexible system which enables reconfiguring the amount of information which can be transmitted on the channel within the available transmission frames in order to maximize message throughput on the channel” [*column 1 «lines 64-68»*].

30. Claims 26-38 are rejected under 35 U.S.C. §103(a) as being unpatentable over Flynn and Laturell (for claims 28 and 31), in further view of Jacobs et al, U.S. Patent No. 5,414,796 ["Jacobs"].

31. As to claims 26-28, Flynn does not disclose a packet that includes two or more words each containing an initial non-alternating portion followed by a series of alternating synchronization bits. However, such a feature was well known in the art at the time of Applicant's invention as evidenced by Jacobs. Jacobs discloses two or more words each containing an initial non-alternating portion followed by a series of alternating synchronization bits [*column 37 «lines 32-36»*]. It would have been obvious to one of ordinary skill in the art to incorporate this feature into Flynn because Jacobs discloses that it “provides added protection” to the data transmission.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOHM CHANKONG whose telephone number is (571)272-3942. The examiner can normally be reached on Monday-Friday [8:30 AM to 4:30 PM].

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on 571.272.3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dohm Chankong/
Examiner, Art Unit 2452